State of Connecticut
HOUSE OF REPRESENTATIVES
STATE CAPITOL
HARTFORD, CONNECTICUT 06106-1591

REPRESENTATIVE MATTHEW LESSER
ONE HUNDREDTH ASSEMBLY DISTRICT

LEGISLATIVE OFFICE BUILDING
ROOM 4032
HARTFORD, CT 06106-1591

HOME: 860-344-1230
CAPITOL: 860-240-8585
TOLL FREE: 800-842-8267
FAX: 860-240-0206
E-MAIL: Matthew.Lesser@cga.ct.gov

VICE CHAIRMAN
GOVERNMENT ADMINISTRATION AND ELECTIONS COMMITTEE

MEMBER
APPROPIRATIONS COMMITTEE
ENERGY AND TECHNOLOGY COMMITTEE
INTERNSHIP COMMITTEE

Senator Crisco, Representative Megna, distinguished Vice Chairs and members of the Insurance & Real Estate Committee,

I wish to testify today in strong support of H.B. No. 5245 *AN ACT REQUIRING HEALTH INSURANCE COVERAGE FOR FERTILITY PRESERVATION FOR CANCER PATIENTS.*

This is the second year the Committee has considered this proposal. Last year, I told the Committee my own battle with cancer, and that cancer treatment frequently leaves patients infertile.

Here are some key issues:

1. **Is this a new mandate?**

No. It is an adjustment to Connecticut's existing mandate requiring fertility treatment for infertile couples. Fertility preservation on the front end can actually save money considering the considerable cost of fertility treatment on the back end.

2. **What will be the cost to the state?**

The Center for Public Health and Health Policy at UConn has reviewed the proposal and estimated a total net cost to the state of $8000, which I hope you agree is *de minimis*.

3. **Is it needed?**

Yes. This Committee has heard evidence that the cost of fertility preservation is a major burden on younger cancer patients, particularly girls and women, for whom the cost of egg preservation is often $10,000 or more. Delaying treatment or choosing less efficacious treatment can result in increased costs or even death.

4. **Is it allowable under the Affordable Care Act?**

Yes. Although this is not a new mandate, to the extent that the state is responsible for any additional costs, they are negligible per the UConn study.

Please see the UConn Study, attached.

Thank you for your consideration and your support of this proposal.

Sincerely,

Matt Lesser

used included: fertility, infertility, fertility management, fertility preservation, pregnancy complications, neoplastic, tissue preservation, family planning services, trachelectomy/cervicectomy, subfertility, gonadotoxic, oncofertility, and fertility sparing.

CPHHP staff also used telephone and e-mail inquiries to appropriate state, federal, municipal, and non-profit entities and from internet sources such as the Centers for Medicare and Medicaid Services (CMS) website, other states' websites, the Connecticut Department of Public Health, and non-profit and community-based organization websites. Also, the CPHHP research team consulted with faculty and staff from the University of Connecticut's School of Medicine and Center for Advanced Reproductive Services on matters pertaining to medical standards of care, traditional, current and emerging practices, evidence-based medicine related to the benefit, treatment cost and utilization.

CPHHP staff fielded a survey to six carriers domiciled in Connecticut. The six carriers surveyed account for 90 percent of covered lives in the Connecticut-domiciled fully insured group market and 94 percent of covered lives in the Connecticut-domiciled individual market. The survey requested policy documents (e.g., utilization review processes, parameters for defining medical necessity, etc.) and data for the proportion of members with policy exclusions, the extent of member coverage, treatments requested and approved, and claims related to fertility preservation, as specified by the mandate. All carriers responded; however, the completeness and quality of responses varied.

The CID contracted with the actuarial firm Optum to provide actuarial and economic analyses of the mandated benefit. Optum's estimates of utilization and cost primarily relied on Optum's in-house national and Connecticut-specific claims data from 2010-2011. The full Optum report is available in Appendix IV.

IV. Social Impact

1. The extent to which fertility preservation is utilized by a significant portion of the population.

Reproductive age males and females with a newly diagnosed cancer are the primary consumers of fertility preservation. This population, combined with others needing chemotherapy or radiation therapy, accounts for a small portion of the overall population. Those who use fertility preservation comprise an even smaller percentage of the reproductive age population with cancer. There is a lack of high quality estimates on use of fertility preservation procedures in general and for the population that would be eligible under the proposed mandate. The CPHHP team generated rough estimates based on Connecticut cancer incidence and a range of use-rates identified in the literature. In addition, this response includes data on utilization at one Connecticut clinic.

In Connecticut, there were 4,286 newly diagnosed cases of cancer in the population aged 10 to 39 from 2006-2010.[346] Roughly, this is an average of 857 new cancer cases diagnosed annually among the reproductive age population. More than three out of five new cancers were diagnosed in females. These new cancer cases, some of which are diagnosed to the same individual, represent less than one-tenth of one percent (0.03) of the overall population under age 65. Roughly half of these new cancer cases likely require cytotoxic treatments.[347]

---

[346] Personal communication with Lou Gonsalves, PhD, Epidemiologist Connecticut Tumor Registry, Connecticut Department of Public Health. December 9, 2012. Reported data is from the Surveillance, Epidemiology, and End Results (SEER) Program, SEER*Stat Database: Incidence, 2006-2010, available from the Connecticut Tumor Registry at the Connecticut Department of Public Health.

[347] Salama M, Winkler K, Murach K, Seeber B, Ziehr S, Wildt L. Female fertility loss and preservation: threats and opportunities. *Annals of Oncology.* 2013; 24; 598-608.

The California Health Benefit Review Program estimated that in a one-year period, 24.4 percent of males and 2.1 percent of females of reproductive age (<45) who are diagnosed with cancer use cryopreservation.[348] Other estimates for fertility preservation range from 1.3 to 8 percent among females[349, 350, 351] and 8 to 27.9 percent among males.[352, 353] Across this range, definitions of reproductive age and relevant newly diagnosed cancer cases vary. Using these rates from the literature and Connecticut cancer incidence data from 2006-2010, annual average utilization of fertility preservation would be 7 to 42 females and 27 to 81 males. However, this may not be an accurate reflection of actual utilization.

CPHHP inquired with fourteen infertility clinics in Connecticut, of which eight reported offering sperm, embryo, and/or oocyte cryopreservation. Only the Center for Advanced Reproductive Services (CARS) provided information on use of fertility preservation counseling and treatment. These results may or may not be generalizable to other clinics in Connecticut. In the period from 2009-2012, only seventy-four calls were made to the CARS oncofertility hotline. Of those who called, 52.7 percent were seen for consultation. Of this group, 41 percent opted for fertility preservation. Only 21.6 percent (16 women) of those who initially called the hotline pursued treatment.[354] Using a crude estimate, this one clinic provided fertility preservation to roughly 0.7 percent of new cancer cases among reproductive age females.

2. The extent to which fertility preservation is currently available to the population, including, but not limited to coverage under Medicare, or through public programs administered by charities, public schools, the Department of Public Health, municipal health departments or health districts or the Department of Social Services.

Medicare: Medicare does not provide coverage for fertility preservation.[355, 356]

Public Programs Administered by Charities: Several national organizations offer resources and support to those seeking fertility preservation treatments as a result of fertility damaging cancer treatments. For example, Fertile Hope offers resources and support to those whose medical treatments put them at risk of infertility. Fertile Hope, through its Sharing Hope Program, arranges discounted prices for fertility preservation treatments with certain companies and clinics and also distributes donated medications to eligible cancer patients. Eligibility is based on the applicant's income, cancer diagnosis, and not yet having

[348] California Health Benefits Review Program. Analysis of Assembly Bill 428: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=124&doc_type=3.

[349] Goodman L, Balthazar U, Kim J, Mersereau J. Trends in socioeconomic disparities in referral patterns for fertility preservation consultation. *Human Reproduction.* 2012; 37(7): 2076-2081.

[350] Letourneau J, Ebbel E, Katz P, Katz A, et al. Pre-treatment fertility counseling and fertility preservation improve quality of life in reproductive age women with cancer. *Cancer.* 2012; 118(6): 1710-1717.

[351] Estimate based on personal communication with J Letourneau. 12/19/2013. Fertility preservation estimate of 8 percent is based on raw data for 2005-2007 study by Letourneau et al, 2012. 19 out of 235 with a non-gynecologic cancer with a treatment that could have affected their fertility received fertility preservation.

[352] Shnorhavorian M, Kroon L, Jeffries H, Johnson R. Creating a standardized process to offer the standard of care: continuous process improvement methodology is associated with increased rates of sperm cryopreservation among adolescent and young adult males with cancer. *Journal of Pediatric Hematology/Oncology.* 2012; 34(8): e315-e319.

[353] Sheth K, Sharma V, Helfand B, et al. Improved fertility preservation care for male patients with cancer after establishment of formalized oncofertility program. *The Journal of Urology.* 2012; 187: 979-986.

[354] Pepin L, Kaye L, Nulsen J, et al. Potential reasons for patients not pursuing fertility preservation after referral for consultation and counseling. The Center for Advanced Reproductive Services. PowerPoint presentation.

[355] U.S. Department of Health and Human Services, Centers for Medicare and Medicaid Services, What Medicare Covers, Preventative and Screening Services. Accessed October 15, 2013 from: http://medicare.gov/coverage/preventive-and-screening-services.html.

[356] Personal Communication. Gwen Jenkins, Customer Service for Medicare. Centers for Medicare and Medicaid Services. September 26, 2013

started fertility damaging cancer treatments. Although Fertile Hope manages the program, it does not offer direct financial assistance to patients; it only arranges services and client referrals.[357] The Alliance for Fertility Preservation also provides fertility preservation resources and support to patients at risk and already diagnosed with infertility, but it does not offer financial assistance of any kind to patients.

Public Programs Administered by Public Schools: An investigation of the Connecticut Department of Education, municipal and regional boards of education, and other web-based inquiries found no information indicating public schools provide funding for or directly provide fertility preservation related care.

The Department of Public Health (DPH): CPHHP researchers found no information that indicates that the DPH provides funding for, or the provision of, fertility preservation treatments.

Municipal Health Departments or Health Districts: None of the seven municipal health departments and sixteen local health districts responding to a phone and web-based inquiry reported providing funding and/or directly providing fertility preservation treatments.

The Department of Social Services (DSS): An investigation of Connecticut Medical Assistance Programs and Connecticut Medicaid did not identify any evidence that Medicaid covers fertility preservation treatments. In correspondence, a DSS representative confirmed that Connecticut Medicaid does not provide coverage for fertility preservation treatment.[358]

3. The extent to which insurance coverage is already available for fertility preservation.

Generally, fully insured plans do not cover fertility preservation. Connecticut-domiciled carriers responding to the CPHHP survey suggest variation as to whether fertility preservation is a covered or excluded benefit. According to one carrier, "cryopreservation of oocytes or embryos is considered medically necessary in women facing infertility due to chemotherapy, pelvic radiotherapy, or other gonadotoxic therapies." Another carrier indicated "*sperm and embryo cryopreservation is covered when meeting medical necessity criteria*" but did not define the threshold for medical necessity. Conversely, three other carriers reported cryopreservation as excluded from coverage. Reviews conducted in California (8 percent) and Hawaii both indicated that insurance coverage for fertility preservation is generally unavailable.

4. If the coverage is not generally available, the extent to which such lack of coverage results in persons being unable to obtain necessary health care treatment.

Like infertility treatment, fertility preservation methods are high cost when paid out-of-pocket. Reported prices from a handful of Connecticut clinics reached as high as $1,250 for sperm cryopreservation, $10,000-17,000 for oocyte cryopreservation, and $20,000-22,000 for embryo cryopreservation.[359] At face value, this amount, especially paired with the future cost of the cancer treatment itself, could deter individuals from financing fertility preservation procedures. However, there is not definitive evidence to establish the extent to which lack of coverage directly translates into persons not receiving fertility preservation treatment. The discussion below highlights anecdotes from public hearing testimony and a Connecticut-based survey. It also raises questions about the ability to obtain care based on findings from several peer-reviewed studies.

At the public hearing for H.B. 5644 the Connecticut State Medical Society, the Center for Advanced Reproductive Services, the American Cancer Society, and the Permanent Commission on the Status of

---

[357] Livestrong, Fertile Hope, Sharing Hope Program. Accessed September 18, 2013 from: http://www.fertilehope.org/financial-assistance/index.cfm.

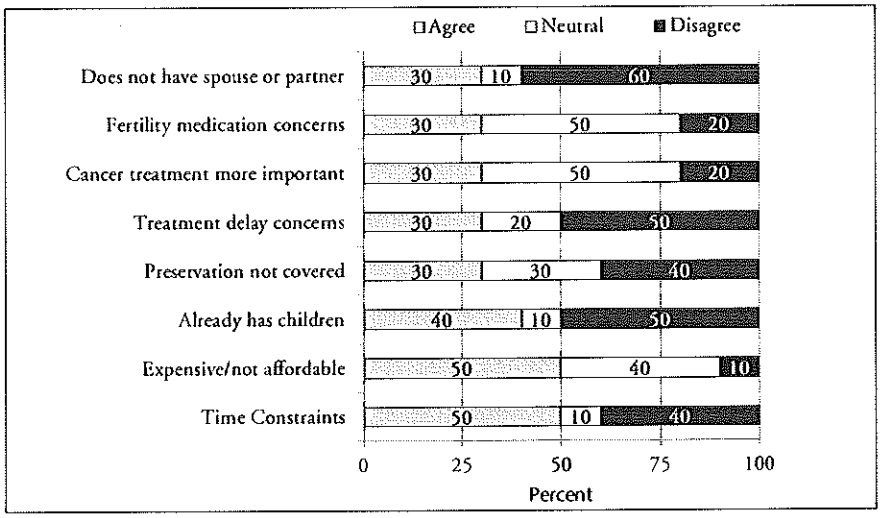
[358] Personal Communication. Barbara Fletcher, DSS Medical Policy & Regulations Unit. September 27, 2013.

[359] Center for Public Health and Health Policy. Infertility Clinic Survey. Conducted November, 2013.

Women all indicated that lack of coverage causes patients to delay or be unable to obtain the necessary fertility preservation treatment.[360, 361, 362, 363]

Patient-related issues. A recent survey of women who received fertility preservation counseling through the Center for Advanced Reproductive Services in Connecticut during 2009-2012 identified time constraints and the cost of treatment as the most common reasons for decisions not to pursue treatment.[364] Of women who did not pursue treatment, fifty percent agreed that time constraints and cost were underlying reasons. (Shown in Figure 3.1, below). In addition, lack of insurance coverage for preservation, treatment delay concerns, prioritizing cancer treatment over preservation, concerns about fertility medication safety, and not having a spouse or partner were noted by thirty percent of women declining treatment as reasons for not pursuing preservation. A smaller portion of women reported not pursuing treatment due to low success rates not warranting delay of cancer treatment, not wanting additional medical treatment, ethical/religious reasons about embryo freezing, oncologist recommending against fertility preservation, cancer treatment not affecting fertility, or spousal concerns.

Figure 3.1: Reasons for Not Pursuing Fertility Preservation



Patient-physician communication issues. Beyond insurance coverage, there is the question of whether patients scheduled for chemotherapy or radiation therapy receive counseling about their likelihood of

[360] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Arthur Tarantino, MD., The Connecticut State Medical Society and the Connecticut Urology Society. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Arthur%20Tarantino,%20CT%20State%20Medical%20Society-TMY.PDF

[361] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Lawrence Engmann, MD., The Center for Advanced Reproductive Services. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Lawrence%20Engmann,%20Center%20for%20Advanced%20Reproductive%20Services-TMY.PDF

[362] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Michelle Wolf, the American Cancer Society. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Michelle%20Wolf,%20American%20Cancer%20Society-TMY.PDF

[363] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by the Permanent Commission on the Status of Women. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-The%20Permanent%20Commission%20on%20the%20Status%20of%20Women-TMY.PDF

[364] Pepin L, Kaye L, Nulsen J, et al. Potential reasons for patients not pursuing fertility preservation after referral for consultation and counseling. The Center for Advanced Reproductive Services. PowerPoint presentation.

infertility or referral for fertility preservation consultations. A 2009 review of twenty four studies found 34 to 72 percent of patients recalled counseling about the impact of cancer on fertility.[365] Findings from a national survey suggest only 47 percent of oncologists routinely refer cancer patients of childbearing age to a reproductive endocrinologist.

Higher odds of referral were found for female physicians, those with favorable attitudes about preservation, and those whose patients routinely ask about fertility preservation.[366] Discrepancies in referral rates also exist based on patient characteristics such as ethnicity, age, parity and cancer type.[367, 368] Other factors include the physician's knowledge about fertility preservation options and efficacy, knowledge of referral sources, personal comfort, patient prognosis, belief that addressing survivorship issues such as fertility detracts from the primary objective to treat malignancy, and concerns about delay in treatment.[369, 370]

There is conflicting evidence on whether a physician's perception of a patient's ability to pay for the treatment affects the decision to discuss fertility preservation option with the patient. However, to the extent that costs are the main barrier keeping oncologists from counseling on infertility risks and providing referrals for preservation, inclusion of fertility preservation as a covered benefit may lead to more counseling and referrals. Improved referrals would in turn increase the likelihood of patients obtaining fertility preservation treatment.[371, 372]

5. If the coverage is not generally available, the extent to which such a lack of coverage results in unreasonable financial hardships on those persons needing treatment.

Health care expenses can substantially affect other aspects of life. For example, an estimated half of all mortgage foreclosures are associated with unexpected health care expenses. Examining a sample of these foreclosures, researchers identified $2,000 in unreimbursed medical payments as a threshold for "significant medical distress."[373] It is clear that the cost burden for fertility preservation is substantially higher for females than males and reaches a threshold that would reasonably pose a substantial financial burden for females.

The average allowed cost calculated by Optum provides some insight into how the potential for financial hardship may occur for families paying for fertility preservation without insurance coverage. Optum reports an average allowed cost of $1,113 for sperm cryopreservation, $8,954 for oocyte cryopreservation, and $16,240 for embryo cryopreservation (p.55). Since allowed costs are rates negotiated by carriers

---

[365] Tschudin S, Bitzer J. Psychological aspects of fertility preservation in men and women affected by cancer and other life-threatening diseases. *Human Reproduction Update.* 2009; 15(5): 587-597.

[366] Quinn G, Vadaparampil S, Lee J-H. Jacobsen P, Bepler G, et al. Physician referral for fertility preservation in oncology patients: a national study of practice behaviors. *Journal of Clinical Oncology.* 2009; 27: 5952-5957.

[367] Goodman L, Balthazar U, Kim J. Mersereau J. Trends of socioeconomic disparities in referral patterns for fertility preservation consultation. *Human Reproduction.* 2012; 27(7): 2076-81.

[368] Letourneau J, Smith J, Ebbel E, Craig A, et al. Racial, socioeconomic, and demographic disparities in access to fertility preservation in young women diagnosed with cancer. *Cancer.* 2012; 118(18): 4579-4588.

[369] Quinn G, Vadaparampil S, Bell-Ellison B, Gwede C, Albrecht T. Patient-physician communication barriers regarding fertility preservation among newly diagnosed cancer patients. *Social Science & Medicine.* 2008; 66: 784-789.

[370] Schover L, Brey K, Lichtin A, Lipshultz L, Jeha S. Oncologists' attitudes and practices regarding banking sperm before cancer treatment. *Journal of Cl*inical Oncology 2002; 20(7): 1890-1897.

[371] Sheth K, Sharma V, Helfand B, et al. Improved fertility preservation care for male patients with cancer after establishment of formalized oncofertility program. *The Journal of Urology.* 2012; 187: 979-986.

[372] Shnorhavorian M, Kroon L, Jeffries H, Johnson R. Creating a standardized process to offer the standard of care: continuous process improvement methodology is associated with increased rates of sperm cryopreservation among adolescent and young adult males with cancer. *J Pediatr Hematol Oncol.* 2012; 34(8): e315-e319.

[373] Robertson C, Egelhof R, Hoke M. Get sick, get out: The medical causes of home mortgage foreclosures. *Health Matrix.* 2008; 18: 65-104.

with providers, the fees for patients paying directly for services may be higher. Responses from a handful of Connecticut clinics, suggest higher prices. Reported prices reached as high as $1,250 for sperm cryopreservation, $10,000-17,000 for oocyte cryopreservation, and $20,000-22,000 for embryo cryopreservation.[374] Cash prices and other discounted rates may or may not be available.

The cost of fertility preservation for females is at least four to ten times the threshold for significant medical distress; for males the cost burden is 55 to 62 percent of the threshold for "significant medical distress." At the public hearing for H.B. 5644, no recipients provided testimony indicating unreasonable financial hardship in obtaining fertility preservation treatments. However, the testimony of one private organization and one elected official indicated that the cost gap between men and women is very large.[375]

6. The level of public demand and the level of demand from providers for fertility preservation.

Based on public hearing testimony for H.B. 5644 there is some evidence of demand for fertility preservation treatments as a result of necessary medical procedures. Providers articulated the dangers and side-effects of certain therapies for various medical conditions that may cause permanent damage to the reproductive system, and recommended the use of fertility preservation methods for future reproduction to counter this possibility. The University of Connecticut Health Center, Center for Advanced Reproductive Services testified, "Assisted reproductive technology provides real hope and treatment to people challenged by cancer during their reproductive years."[376] Two additional providers emphasized the need for fertility preservation treatment prior to any invasive treatment of a disease/disorder, in order to maintain the possibility of reproduction in the future.[377, 378] Although these testimonies suggest some demand, testimonies are not necessarily representative of whether or not the general public or broader health care community supports the use of fertility preservation treatments.

CPHHP's scan of Connecticut newspapers identified eighteen articles referencing fertility preservation. These publications reflect some demand for fertility preservation treatment, often referencing anecdotes and research studies.

The evidence for provider support for fertility preservation is mixed when guidelines are compared to practice. Major professional associations in the field of oncology, reproductive medicine, and pediatrics have all issued related guidelines. Existing guidelines and research are limited to patients undergoing chemotherapy or radiation therapy. Although guidelines have been established, a national survey found that only forty-seven percent of oncologists reported routinely referring cancer patients of childbearing age to a

---

[374] Center for Public Health and Health Policy. Infertility Clinic Survey. Conducted November, 2013.

[375] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by the Permanent Commission on the Status of Women. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-The%20Permanent%20Commission%20on%20the%20Status%20of%20Women-TMY.PDF

[376] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Lawrence Engmann, MD., The Center for Advanced Reproductive Services. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Lawrence%20Engmann,%20Center%20for%20Advanced%20Reproductive%20Services-TMY.PDF

[377] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Lawrence Engmann, MD., The Center for Advanced Reproductive Services. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Lawrence%20Engmann,%20Center%20for%20Advanced%20Reproductive%20Services-TMY.PDF

[378] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Arthur Tarantino, MD., The Connecticut State Medical Society and the Connecticut Urology Society. February 19, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Arthur%20Tarantino,%20CT%20State%20Medical%20Society-TMY.PDF

reproductive endocrinologist.[379]

7. The level of public demand and the level of demand from providers for insurance coverage [for fertility preservation].

Public hearing testimony in favor of H.B. 5644 revealed there is some demand for insurance coverage for fertility preservation procedures when there is a likely risk of infertility as a result of a necessary medical procedure. Specifically, two providers and one legislator with personal experience of related coverage denial recommended that the insurance coverage for preservation methods be mandated as available prior to any disease/disorder treatments that may cause infertility, thus maximizing the possibility of reproduction.[380, 381, 382] Further, the Health Initiatives for the American Cancer Society, the Permanent Commission on the Status of Women, the Connecticut Urology Society, and the Connecticut State Medical Society all expressed their concern with the gender disparity between male and female fertility preservation treatments where women bear a greater cost for these treatments. The Connecticut Association of Health Plans, the Connecticut Business and Industry Association, and the Connecticut Conference of Municipalities all voiced their opposition to the proposal to mandate coverage for fertility preservation.[383, 384, 385] Although these testimonies suggest some demand for insurance coverage, testimonies are not necessarily representative of whether or not the general public or broader health care community supports insurance coverage for fertility preservation treatments.

Outside of public testimony, Anthem's decision to adopt coverage of oocyte and embryo cryopreservation "for women who would become infertile due to cytotoxic therapies such as, chemotherapy, radiation therapy or surgery" may be a reflection of public demand and provider association recommendations.[386] In addition, CPHHP's scan of Connecticut newspapers identified several articles detailing the high cost of fertility preservation. One article indicated that more than half of individuals in need of fertility preservation treatment lack sufficient insurance coverage to cover these costs. Thus, newspapers in Connecticut reflect a slight public and provider demand for insurance coverage for fertility preservation.
Conversely, in Hawaii, carriers reported few requests for coverage of fertility preservation. Three carriers

---

[379] Quinn G, Vadaparampil S, Lee J-H. Jacobsen P, Bepler G, et al. Physician referral for fertility preservation in oncology patients: a national study of practice behaviors. *Journal of Clinical Oncology* 2009; 27: 5952-5957.

[380] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Lawrence Engmann, MD., The Center for Advanced Reproductive Services. February 19, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Lawrence%20Engmann,%20Center%20for%20Advanced%20Reproductive%20Services-TMY.PDF

[381] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by Arthur Tarantino, MD., The Connecticut State Medical Society and the Connecticut Urology Society . February 19, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Arthur%20Tarantino,%20CT%20State%20Medical%20Society-TMY.PDF

[382] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by State Representative Matthew Lesser, 100th District. December 3, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Matthew%20Lesser,%20100th%20District-TMY.PDF

[383] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by The Connecticut Association of Health Plans. February 19, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Connecticut%20Association%20of%20Health%20Plans-TMY.PDF

[384] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by the Connecticut Business and Industry Association. February 19, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Jennifer%20Herz,%20CBIA-TMY.PDF

[385] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by the Connecticut Conference of Municipalities. February 19, 2013, Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-The%20Connecticut%20Conference%20of%20Municipalities-TMY.PDF

[386] Anthem. Medical Policy. MED.00080: Cryopreservation of oocytes or ovarian tissue. Effective date: 8/12/2013. Last review date: 8/8/2013. Accessed December 12, 2013 from: http://www.anthem.com/medicalpolicies/policies/mp_pw_a050519.htm

reported that between one to ten requests for coverage occur per year; one carrier responded "fertility preservation is an issue that arises infrequently."[387]

8. The likelihood of achieving the objectives of meeting a consumer need as evidenced by the experience of other states.

The National Association of Insurance Commissioners (NAIC) maintains a database of health benefit mandates and the states in which they were enacted. As of September 5, 2013, the NAIC database showed no states require coverage of fertility preservation.[388] Therefore, the experience of other states does not provide any evidence on the likelihood of meeting a consumer need.

The database does show that twenty-four states have health benefit mandates for infertility-related services. Twenty states, including Connecticut, (Arkansas, California, Colorado, Florida, Georgia, Hawaii, Illinois, Maryland, Massachusetts, Montana, New Jersey, New Mexico, New York, North Dakota, Ohio, Rhode Island, Texas, Virginia, West Virginia) mandate at least some coverage for infertility treatment while two states (Minnesota, Utah) mandate that the diagnosis of infertility be covered. Arkansas, Colorado, Georgia, Hawaii, Massachusetts, Rhode Island and West Virginia have mandates similar to Connecticut.[389] Louisiana prohibits the exclusion of coverage of medical conditions on the basis of infertility.

9. The relevant findings of state agencies or other appropriate public organizations relating to the social impact of the mandated health benefit.

No states currently require coverage of fertility preservation. A search of the thirty states that require a fiscal note or an additional review process for any proposed health insurance benefit enactment[390] was conducted to identify the relevant findings of state agencies. California, Hawaii and New Jersey are the only states that had entertained a proposal to mandate coverage for fertility preservation. These states also require a fiscal note or additional review process. Both California and Hawaii published fertility preservation mandated benefit reviews. This section provides a brief summary of relevant findings from the reviews. However, these assessments reflect projected impacts not actual social impacts following implementation of a related mandate.

California. Evaluations were conducted by the California Health Benefit Review Program (CHBRP) for Assembly Bill 428 (2011)[391] and Assembly Bill 912 (2013).[392] Both bills proposed requiring managed health care and insurance carriers to offer coverage for fertility preservation services for patients whose medical treatment may result in infertility. Projections are provided for standard cryopreservation methods for those at risk of infertility resulting from cytotoxic treatments. The CHBRP made several conclusions regarding the social impact of the proposed legislation.

---

[387] Office of the Auditor, State of Hawaii. Mandatory Health Insurance Coverage for Fertility Preservation Procedures for People of Reproductive Age Diagnosed with Cancer. Accessed September 5, 2013 from: http://www.state.hi.us/auditor/Reports/2012/12-09.pdf

[388] National Association of Insurance Commissioners. Mandated Benefits: Women's Health, Pregnancy, Fertility and Preventive Care. August, 2011.

[389] Wakai S, Benson B. Chapter Five: Infertility diagnosis and treatment. Connecticut Mandated Health Insurance Benefits Reviews, 2010. Center for Public Health and Health Policy. January 2011. Accessed December 1, 2013 from: http://www.ct.gov/cid/lib/cid/2010_Connecticut_Mandated_Health_Insurance_Benefits_Reviews_-_Volume_II.pdf

[390] California Health Benefits Review Program. Other States' Health Benefit Review Programs, 2011. Accessed September 5, 2013 from: http://www.chbrp.org/other_publications/docs/other_states_health_benefits2011.pdf

[391] California Health Benefits Review Program. Analysis of Assembly Bill 428: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=124&doc_type=3

[392] California Health Benefits Review Program. Analysis of Assembly Bill 912: Health Care Coverage: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=147&doc_type=3

- If enacted, the proportion of enrollees with fertility preservation coverage would increase from 8.3 percent to 100 percent, with an average increase in premium of $0.01 PMPM. A 29 percent increase in fertility preservation utilization by those at risk for infertility from cytotoxic treatments was anticipated. CHBRP attributed the anticipated increase in utilization to the reduction in out-of-pocket costs or financial burden associated for procedures that were previously not covered.
- Of total persons expected to undergo preservation, fewer than 14 percent would be female, compared to 6.4 percent pre-mandate. By gender, utilization post-mandate would increase by 19 percent among male enrollees and 175 percent among female enrollees.
- Insurance coverage would decrease the gender disparity in the financial burden of expenses related to fertility preservation, though females would still face greater out-of-pocket costs given the substantially higher cost for procedures used for females.
- CHBRP suggests quality of life may improve for some of the patients who would have coverage as a result of A.B. 912. Projected annual long-term benefits could include an estimated twenty additional cancer patients having a biological child as a result of A.B. 912. No reduction in premature death or associated economic loss was anticipated.

Hawaii.[393] The evaluation was conducted for H.B. 2105, a bill requiring providers to offer coverage for fertility preservation services for people of reproductive age diagnosed with cancer. Social and financial impacts are described as difficult to determine based on the lack of data. However, the State Auditor of Hawaii made some conclusions, many based on carrier or other stakeholder survey responses, regarding the social impact of the proposed legislation.

- The population of individuals of reproductive age diagnosed with cancer that may be affected by H.B. 2105 is relatively small, the level of public demand is low and insurance coverage is generally not available.
- The Hawaii Medical Assurance Association (HMAA) claimed that mandating coverage will prevent resources from being applied to other medical care that may impact a broader base of individuals.
- The impact of providing coverage on morbidity and mortality would be low according to the American Cancer Society, the HMAA and University Health Alliance.

10. The alternatives to meeting the identified need, including but not limited to, other treatments, methods or procedures.

For individuals at risk of infertility from a necessary medical procedure, there are few alternatives. As described in the background section, less invasive surgical procedures may, at time, be appropriate. However, this is only relevant to certain cases of cancers impacting the reproductive organs. (For additional detail, refer to Table 3.2). Even so, individuals undergoing less invasive procedures may still need to undergo cytotoxic treatments.[394]

For individuals receiving pelvic radiation therapy, pelvic shielding is sometimes used to shield the abdomen. With females, this may or may not be combined with a method called ovarian transposition. However, due to radiation scatter, the ovaries are not always protected by transposition and this method is not always

[393] Office of the Auditor, State of Hawaii. Mandatory Health Insurance Coverage for Fertility Preservation Procedures for People of Reproductive Age Diagnosed with Cancer. Accessed September 5, 2013 from: http://www.state.hi.us/auditor/Reports/2012/12-09.pdf

[394] Rodriguez-Macias Wallberg K, Keros V, Hovatta O. Review Clinical Aspects of Fertility Preservation in Female Patients. *Pediatric Blood & Cancer.* 2009; 53: 254-260.

successful for preserving female fertility.[395] Cryopreservation of sperm, oocytes or embryos is the only other recommended medical procedure. Alternative medical procedures, such as the cryopreservation of reproductive tissues and reimplantation, are investigational or experimental. Hormone suppression therapy is also sometimes used but current evidence indicates a lack of effectiveness.[396]

Individuals may also elect not to undergo medical procedures to preserve fertility, beyond gonadal shielding and less-invasive surgical procedures, as applicable. Of those who do not undergo fertility preservation, some may achieve a successful pregnancy without intervention. If female and infertile, the patient or a surrogate may elect to undergo IVF using a donor oocyte fertilized by partner or donor sperm. If male and infertile, the patient's female partner or surrogate may use donor sperm artificial insemination or assisted reproductive technology. Attempts at pregnancy following fertility preservation or using these options, does not guarantee success. Individuals may also choose to adopt or to forgo having children, as an alternative to undergoing fertility preservations procedures.

11. Whether the benefit is a medical or broader social need and whether it is consistent with the role of health insurance and the concept of managed care.

Medical or social need. It is possible to conceptualize fertility preservation as proposed in H.B. 5644 as meeting a medical need or broader social need. Child bearing is largely considered a social need, yet infertility unquestionably involves medical issues. Treatment of infertility and fertility preservation both involve medical procedures to address a medical issue or potential medical issue. However, some may suggest having a biologic child is a social need and not a medical need; therefore, any medical treatments to have a biologic child or preserve fertility is not a medical need.

An alternate approach to considering medical need is to apply the definition of medical necessity to the use of fertility preservation. The American Medical Association defines medical necessity as: "Health care services or products that a prudent physician would provide to a patient for the purpose of preventing, diagnosing or treating an illness, injury, disease or its symptoms in a manner that is: (a) in accordance with generally accepted standards of medical practice; (b) clinically appropriate in terms of type, frequency, extent, site, and duration; and (c) not primarily for the economic benefit of the health plans and purchasers or for the convenience of the patient, treating physician, or other health care provider."[397]

The proposed mandate is partially consistent with criterion (a). There are generally accepted standards for fertility preservation using cryopreservation for sperm, oocyte or embryos for cancer patients; therefore, to this extent, the proposed mandate can be considered a medical need.

Role of Health Insurance. In the current system, health providers often prescribe medication and perform treatment to minimize the risk of future medical problems, such as mole removal to prevent skin cancer and blood pressure medicine to prevent a heart attack.[398] This is generally covered by health insurance. This a change from the traditional purpose of insurance policies as a means of financial security in times of economic uncertainty following unexpected events such as premature death, disease, accident or disability.

---

[395] Loren AW et al. Fertility preservation for patients with cancer: American society of clinical oncology clinical practice guideline update. *Journal of Clinical Oncology.* 2013; 31(19):2500-10.

[396] Ibid.

[397] Statement of the American Medical Association to the Institute of Medicine's Committee on Determination of Essential Health Benefits. Accessed January 14, 2011 from: http://www.iom.edu/~/media/Files/Activity%20Files/HealthServices/EssentialHealthBenefits/2011-JAN-13%20and%2014/Gerald%20Harmon%20Statement.pdf

[398] Basco D, Campo-Engelstein L, Rodriguez S. Insuring against infertility: expanding state infertility mandates to include fertility preservation technology for cancer patients. *The Journal of Law, Medicine & Ethics.* 2010; 38(4): 832-839.

However, over time insurance benefits have expanded beyond catastrophic events or indemnity policies. Preventive medicine and follow-up care such as breast reconstructive surgery after mastectomy are now coverage norms. Whether the proposed mandate is consistent with the concept of health insurance is defined largely by how a person conceptualizes the role of the health care system. Fertility preservation procedures and ongoing storage are expensive. The desire to preserve fertility following an unexpected need to undergo treatment(s) likely to cause infertility could add to economic uncertainty for those who preserve. Alternatively, fertility preservation could be considered by some a departure from primary health care services or beyond the scope of what should be covered.

Concept of Managed Care. Merriam-Webster defines managed care as "a system of health care (as by an HMO or PPO) that controls costs by placing limits on physicians' fees and by restricting the patient's choice of physicians." Managed care uses a combination of provider selection and organization of providers, methods and levels of payment for providers, and monitoring and management of service utilization. Examples of managed care tools include prospective pricing, "usual, customary, and reasonable pricing of services; peer review, mandatory use review, benefit redesign, capitation payments, channeling, quality criteria, and health promotion."[399] In addition there are financial care reimbursement policies such as negotiated fees and service bundling. The only anticipated conflict between the proposed mandate and managed care techniques is that utilization management procedures that would otherwise deem fertility preservation as uncovered could no longer be used.

12. The potential social implications of the coverage with respect to the direct or specific creation of a comparable mandated benefit for similar diseases, illnesses, or conditions.

This proposal to cover fertility preservation can be conceptualized as an expansion on the current infertility treatment mandate, which requires the coverage of medically necessary costs for diagnosing and treating infertility. Testimony from State Representative Matthew Lesser recommended "to amend Sec. 38a-509," the current infertility mandate to include "when an individual's physician has determined that permanent infertility is likely to result from necessary treatment from cancer or another disease."[400] If discussions open on how to define infertility, infertility mandate coverage may be redefined to include those at risk of infertility and others who would like to conceive using artificial insemination or ART.

Further implications exist if the proposed language is enacted as written.

- A broad interpretation of "as a result of a necessary medical procedure" could include pharmaceuticals, surgical procedures or other treatments. For example, pelvic surgery, including those for infertility procedures, can result in pelvic adhesions. Pelvic adhesions are bands of scar tissue that bind the organs and are a known cause of female infertility. Would pelvic surgery to treat a medical condition invoke coverage of fertility preservation?
- Infertility may be interpreted as a permanent or temporary condition. The medical procedure may be interpreted to include pharmaceutical treatments where the infertility symptoms subside if the medication is discontinued. Many of these pharmaceuticals, when taken during pregnancy, pose a risk to the fetus during pregnancy.
- At what threshold will a medical procedure be considered likely to cause infertility? In many cases, existing evidence may make such a distinction difficult.

Proposing coverage for fertility preservation is also in some ways similar to Connecticut's existing coverage

---

[399] Curtiss FR. Managed health care. *American Journal of Hospital Pharmacy.* 1989; 46(4): 742-63.

[400] Public Hearing on H.B. 5644. Conn. Joint Standing Committee Hearings, Insurance and Real Estate, 2013 Sess., testimony submitted by State Representative Matthew Lesser, 100th District., December 3, 2013. Accessed from: http://www.cga.ct.gov/2013/INSdata/Tmy/2013HB-05644-R000219-Matthew%20Lesser,%20100th%20District-TMY.PDF.

mandates for wigs or breast reconstruction (§38a-504a-c and §38a-542a-c), where the physical loss occurs as a result of non-negligent medical treatment for a medical condition. The primary difference is that cryopreservation occurs before the procedure, fertility may not be lost, and cryopreservation does not guarantee the ability to conceive a child in the future.

13. The impact of the benefit on the availability of other benefits currently offered.

It does not seem likely that providing the benefits under H.B. 5644 would reduce the availability of other benefits.

14. The impact of the benefit as it relates to employers shifting to self-insured plans and the extent to which the benefit is currently being offered by employers with self-insured plans.

Carrier responses suggest that a large majority of self-funded groups do not cover fertility preservation in a manner consistent with the proposed mandate. It is unknown whether self-funded groups in Connecticut may add fertility preservation if that becomes a norm of coverage for employers with fully insured plans. For example, in Connecticut, 75 percent of members in self-funded groups reported coverage for infertility diagnosis and treatment, which is a mandate for fully insured groups.[401]

Employer decisions to switch to self-funded are complex economic decisions involving multiple factors. Mandated benefits, specifically H.B. 5644 are not expected to play a primary role in such decisions. As estimated by Optum, proposed coverage for fertility preservation will account for approximately 0.012 percent of the average group premiums in 2014. Employers absorb only some of this cost increase through the premium contributions they make. In 2012, private sector employers contributed on average 70 to 79 percent of the median premium, depending on whether the plan was employee only, employee-plus one, or a family plan.[402]

Decisions to switch to self-funded are more likely to be driven by the extent of annual premium increase, the extent of employer desire to have control over plan design, Affordable Care Act requirements, and whether these concerns would be adequately addressed through self-funded status. The potential benefit of switching to self-funded comes from the federally legislated Employee Retirement Income Security Act (ERISA). Becoming self-funded translates into such plans being ERISA-exempted from state insurance mandates, Connecticut's 1.75 percent premium tax, and insurer profit margins and risk charges.

15. The impact of making the benefit applicable to the state employee health insurance or health benefits plan.

The State of Connecticut employee health benefits plan transitioned from fully insured to self-funded as of July 1, 2010. As a self-funded group, the State of Connecticut is exempt from state health insurance mandates under the federal Employee Retirement Income Security Act (ERISA) law. If the State Comptroller's Office or the Connecticut General Assembly decided to extend the proposed coverage to the state employee health plan, the social impact of the benefit for the approximately 161,368 covered lives under age 65 in state employee and retiree plans, of whom 28,913 are state retirees under age 65,[403] is expected to be the same or similar to the social impact for persons covered in non-state employee health insurance plans as discussed throughout Section IV of this report. In terms of financial impact, the Optum

---

[401] Wakai S, Benson B. Chapter Five: Infertility diagnosis and treatment. Connecticut Mandated Health Insurance Benefits Reviews, 2010. Center for Public Health and Health Policy. January 2011. Accessed December 1, 2013 from: http://www.ct.gov/cid/lib/cid/2010_Connecticut_Mandated_Health_Insurance_Benefits_Reviews_-_Volume_II.pdf

[402] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2012.

[403] Personal communication. Tracy Dunn. State of Connecticut Comptroller's Office. November 8, 2013.

analysis estimates the total paid medical cost to the state employee health plan would total $8,019 in 2014.

Caveat: It should be noted that the estimated cost to the State plan is calculated using the same weighted averages as was used for the other cost calculations. The actual cost of the mandates to the State plan may be higher or lower, based on the actual benefit design of the State plan and the demographics of the covered lives (e.g., level of cost-sharing, average age of members, etc.).

16. The extent to which credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community determines the treatment, service or equipment, supplies or drugs, as applicable, to be safe and effective.

Cryopreservation of sperm, oocytes and embryos are not considered experimental or investigational. The American Society of Reproductive Medicine (ASRM) defines a treatment as experimental or investigational "until the published medical evidence regarding their risks, benefits and overall safety and efficacy is sufficient to regard them as established medical practice."[404] ASCO, ASRM and SART include cryopreservation of sperm, oocytes and embryos as standard practices for fertility preservation. As such, these procedures are considered to be safe and effective. However, the evidence level for oocyte cryopreservation, according to ASCO Guidelines, is not considered as strong as embryo cryopreservation. Existing guidelines do not support routine substitution of oocyte cryopreservation for embryo cryopreservation.

Safety. Although considered safe, a low level of risk exists for ovarian stimulation, surgical retrieval of oocytes and related anesthesia.[405]

- At the time of this review, debate exists around the appropriateness and risks of using conventional ovarian stimulation for estrogen sensitive cancers, such as breast, endometrial or gynecological cancers.[406, 407] Animal studies show a potential for accelerated tumor growth when using conventional methods; however, it is questioned whether increased short-term stimulation truly increases risk for humans.
- Use of ovarian stimulation can cause ovarian hyperstimulation syndrome (OHSS), in an estimated 2.1-4.7 percent of patients.[408] OHSS symptoms may include lower abdominal pain, fluid buildup in the abdomen, shortness of breath, nausea, vomiting, enlarged ovaries, abnormal blood chemistry and in rare cases, complications such as blood clot or kidney failure.
- Surgical complications, most of which occur during fewer than 0.1 percent of procedures, include vaginal bleeding, intra-abdominal bleeding, intestinal injuries, inflammation of the lining of the abdominal cavity, and ovarian torsion.[409]

In addition, the future use of cryopreserved sperm, oocytes or embryos requires the use of artificial insemination or assisted reproductive technology (ART). Use of ART elevates the risk for multiple gestations, congenital anomalies, preterm delivery, low birth weight, and the complications associated with

---

[404] American Society for Reproductive Medicine. Definition of experimental procedures: a committee opinion. 2013; 99(1): 1197-8.

[405] Institute of Medicine (IOM) and National Research Council (NRC). Assessing the medical risks of human oocyte donation for stem cell research: Workshop Report. 2007. Washington, DC: The National Academies Press.

[406] Kim S, Klemp J, Fabian C. Breast cancer and fertility preservation. *Fertility and Sterility®*. 2011; 95(5): 1535-43.

[407] Loren AW et al. Fertility preservation for patients with cancer: American society of clinical oncology clinical practice guideline update. *Journal of Clinical Oncology*. 2013; 31(19):2500-10.

[408] Institute of Medicine (IOM) and National Research Council (NRC). Assessing the medical risks of human oocyte donation for stem cell research: Workshop Report. 2007. Washington, DC: The National Academies Press.

[409] Ibid.

these outcomes.[410]

Effectiveness. The cryopreservation procedures are considered effective. However, it is important to delineate that a minority of cryopreserved specimens are not viable for future use. It is also important to clarify that future use of a cryopreserved specimen does not guarantee fertilization, implantation, or a live birth will occur. According to the CDC's 2011 Assisted Reproductive Technology Success Rates Report, national norms of live birth rates per transfer with frozen embryos from non-donor eggs were 39 percent for women younger than 35, 35.5 percent for women ages 35-37, and 29.7 for women 38-40.[411]

The SART/ASRM guidelines report, "[T]here is good evidence that fertilization and pregnancy rates are similar to IVF/ICSI with fresh oocytes when vitrified/warmed oocytes are used as part of IVF/ICSI in young patients."[412] Findings from Noyes, et al. also suggest that frozen thawed embryos and frozen-thawed oocytes have comparable live birth rates.[413] Oocyte thaw success rates vary by freezing technique, with better success among vitrified oocytes. Vitrified oocyte success rates in four large randomized controlled trials ranged from 90-97 percent for oocyte survival after vitrification, 71-79 percent for fertilization, 17-41 percent for implantation and 36-61 percent for clinical pregnancy per oocyte transfer or 4.5-12 percent per thawed oocyte.[414] Another study suggests that success rates for implantation vary according to the age when the oocyte vitrification occurred. In this study, eggs vitrified at age forty had a 4 percent lower implantation rate. Vitrified oocytes had a thaw survival rate of 85 percent, a fertilization rate of 79 percent and an implantation rate of 13 percent for women younger than thirty years old at preservation.[415]

V. Financial Impact

1. The extent to which the mandated health benefit may increase or decrease the cost of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

The Optum report does not anticipate a change in the unit cost of fertility preservation procedures. Although use of fertility preservation is anticipated to increase, this new utilization "is not expected to greatly increase the demand relative to the supply" of medical providers. This same finding, no change to unit cost is also reported by the California Health Benefit Review Program's review of two similar mandate proposals, A.B. 428[416] and A.B. 912.[417]

2. The extent to which the mandated health benefit may increase the appropriate or inappropriate

---

[410] Paulson R. Pregnancy outcome after assisted reproductive technology. *UpToDate.*® Eds. Lockwood C, Barbieri R, Barss V. Literature review current through Nov. 2013. Topic last updated Nov 15, 2013.

[411] Centers for Disease Control and Prevention. American Society for Reproductive Medicine, Society for Assisted Reproductive Technology. 2011 Assisted Reproductive Technology Success Rates: National Summary and Fertility Clinic Reports. Accessed December 9, 2013 from: http://nccd.cdc.gov/DRH_ART/Apps/NationalSummaryReport.aspx

[412] The Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. *Fertility and Sterility*®. 2013; 99(1)37-43.

[413] Kim S, Klemp J, Fabian C. Breast cancer and fertility preservation. *Fertility and Sterility*®. 2011; 95(5):1535-43..

[414] The Practice Committees of the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology. Mature oocyte cryopreservation: a guideline. *Fertility and Sterility*®. 2013; 99(1)37-43.

[415] Cil A, Bang H, Oktay K. Age-specific probability of live-birth with oocyte cryopreservation: an individual patient data meta-analysis. *Fertility and Sterility*®, in press, 2013.

[416] California Health Benefits Review Program. Analysis of Assembly Bill 912: Health Care Coverage: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=147&doc_type=3

[417] Ibid.

use of the treatment, service or equipment, supplies or drugs, as applicable, over the next five years.

Adequacy of available data limits the ability to provide a five year projection for changes in utilization of fertility preservation. Optum suggested two scenarios for changes in utilization. The first scenario assumes a 10 percent annual increase beyond the normal trend while the second assumes an additional 5 percent increase in utilization each year. Per these scenarios, over five years use of fertility preservation would increase from 29 to 46.7 or 58.3 percent of males and 4 to 6.4 or 8 percent for females (p.58). This is holding the mandate language and population constant. Optum's projected increase is larger than that suggested in the California report, which assumed utilization post-mandate would increase by 19 percent among male enrollees and 175 percent among female enrollees. Applying the California assumption to Connecticut, utilization would be a much lower 34.5 percent for males and 7 percent for females.[418]

3. The extent to which the mandated health benefit may serve as an alternative for more expensive or less expensive treatment, service or equipment, supplies or drugs, as applicable.

The proposed benefit, cryopreservation of sperm, oocytes, or embryos can best be considered an additional medical procedure. There are no established alternative medical procedures recommended by professional guidelines. The medical care alternative is not conducting the procedure(s) for fertility preservation. For individuals who hope to conceive children after treatment, cryopreservation and subsequent use of assisted reproductive technology may be an alternative to future non-medical alternative treatments to infertility, such as surrogacy, adoption, and child-free living.[419] Depending on the adoption route taken, adoption cost can vary, averaging over $30,000 for domestic adoptions through agencies but less than $5,000 for foster care adoptions.[420]

4. The methods that will be implemented to manage the utilization and costs of the mandated health benefit.

Benefit plan limitations, plan structure and review processes are common strategies used to control utilization and costs. The proposed mandate does not include language that expressly prohibits or allows utilization management or benefit plan structure, other than requiring coverage of fertility preservation. It is anticipated that carriers will therefore, manage utilization and costs using standard methods. Notably, carriers frequently establish medical or administrative policies related to certain health conditions or specific treatments. This method seems likely to be adopted for fertility preservation since it is already used by some carriers for infertility treatment. Pre-service review may also be used. This review process explores consistency with medical necessity and benefit plan language by requiring that a treatment or procedure be pre-approved before a member obtains the service.

5. The extent to which insurance coverage for the treatment, service or equipment, supplies or drugs, as applicable, may be reasonably expected to increase or decrease the insurance premiums and administrative expenses for policyholders.

Insurance premiums include medical cost and retention costs. Retention costs comprise administrative cost and profit (for for-profit insurers/MCOs) or contribution to surplus (for not-for-profit insurers/MCOs). Optum's projected premium for fertility preservation coverage in 2014 would be an estimated $0.059 per member per month (PMPM) for fully insured group policyholders, which is 0.012 percent of the average

---

[418] Ibid.

[419] Macaluso M. A public health focus on infertility prevention, detection and management. *Fertility and Sterility®*. 2008; 93(1): 16e1-16e10.

[420] Adoptive Families. Cost of Adoption Update; 2010-2011. 2010-2011 Cost & Timing of Adoption Survey. Accessed December 23, 2013 from: http://www.adoptiAB vefamilies.com/articles.php?aid=2350

total premium for group plans. Optum projected $0.062 PMPM for individual policies, which is 0.021 percent of the average total premium for individual policies. Medical costs account for an average $0.05 of the PMPM for group plans and $0.051 of the PMPM for individual policies.

Based on 2012 Connecticut data from the Medical Expenditure Panel Survey, private sector employers offering health plans contributed an average of 70-79 percent of the median premium, depending on whether the plan was employee only, employee-plus one, or a family plan.[421] Therefore, the average employer would pay less than $56 per 100 employees for 2014.[422] Available research is inadequate to justify any savings from potential medical costs avoided in the future or any potential increases in employee productivity.

CPHHP identified two states as having completed analyses concerning fertility preservation mandate legislation. Optum's estimated PMPM and percent of premium are somewhat higher than those estimated for two similar mandate proposals in California. According to the California Health Benefit Review Program (CHBRP), the premium impact of A.B. 428 included an average increase of 0.00 to 0.017 percent in PMPM premium, which translates as a $0.00-$0.037 PMPM premium increase.[423] Similarly, an average $0.01 PMPM premium increase was estimated for A.B. 912.[424]

Carrier estimates for the cost of the mandate are much higher than those suggested by Optum and CHBRP. Connecticut-domiciled carriers responding to the CPHHP survey estimated a paid cost of $0 to $1.63, with a mean paid cost of $0.84 for group plans and $0.81 for individual policies. The mean paid costs are similar to the $0.84 PMPM suggested by one carrier during the evaluation of Hawaii's H.B. 2105, a bill requiring providers to offer coverage for fertility preservation services for people of reproductive age diagnosed with cancer.[425]

6. The extent to which the treatment, service or equipment, supplies or drugs, as applicable, is more or less expensive than an existing treatment, service or equipment, supplies or drugs, as applicable, that is determined to be equally safe and effective by credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community.

The only established safe and effective alternatives to sperm, oocyte and embryo cryopreservation is to substitute less invasive surgical methods when the course of treatment is surgery. (Refer to Background, Table 3.1). However, less-invasive surgical methods are only relevant as treatments for certain cancers and apply only to cases where later treatment does not involve cytotoxic treatments deemed risky to fertility. Generally speaking, when a less invasive surgical treatment is available and appropriate, it is assumed that this treatment is adopted. In addition, sperm, oocyte or embryo cryopreservation may be considered and pursued as an additional measure to preserve fertility.

7. The impact of insurance coverage for fertility preservation on the total cost of health care, including potential benefits or savings to insurers and employers resulting from prevention or

[421] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2012.

[422] Calculation uses $0.0585 PMPM x 79% x 12 months x 100 employees

[423] California Health Benefits Review Program. Analysis of Assembly Bill 428: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=124&doc_type=3

[424] California Health Benefits Review Program. Analysis of Assembly Bill 912: Health Care Coverage: Fertility Preservation. Accessed September 5, 2013 from: http://chbrp.ucop.edu/index.php?action=read&bill_id=147&doc_type=3

[425] Office of the Auditor, State of Hawaii. Mandatory Health Insurance Coverage for Fertility Preservation Procedures for People of Reproductive Age Diagnosed with Cancer. Accessed September 5, 2013 from: http://www.state.hi.us/auditor/Reports/2012/12-09.pdf

early detection of disease or illness related to such coverage.

The total cost of health care is understood to be the total medical cost paid by the carriers plus the total cost-sharing paid by the insureds; combined, this is referred to as the allowed cost. Holding the mandate language and population constant, Optum projected the 2014 allowed cost of the proposed benefit as $71,932, of which $56,997 (79 percent) is for medical claims covered by the carrier and $14,935 is paid by employees as cost-sharing. The estimated total cost of health care does not include any potential benefits or savings that may result from fertility preservation. Although some savings or additional costs may occur, the existing literature does not adequately justify parameters for such an estimate.

8. The impact of the mandated health care benefit on the cost of health care for small employers, as defined in section 38a-564 , and for employers other than small employers.

Optum estimates on average, the 2014 total premium paid for fertility preservation is 0.012 percent of the average $482 premium paid PMPM for group health insurance plans. Both small (<50 employees) and larger employers contribute roughly 78 percent of the premium for single plans and 74 to 76 percent of family plans, respectively.[426] Given that utilization of fertility preservation is anticipated to account for a small percentage of the total premium, it appears reasonable to expect that the impact of H.B. 5644 would be minimal for employers, regardless of size. Further, the average impact for covering all employees for a small employer would be less than $28 for the year.

9. The impact of the mandated health benefit on cost-shifting between private and public payers of health care coverage and on the overall cost of the health care delivery system in the state.

The overall cost of the health delivery system in the state is understood to include total insurance premiums (medical costs and retention) and cost-sharing. The 2014 projection for the overall cost to the health care delivery system for the coverage of fertility preservation as proposed for the population enrolled in fully insured group plans and individual policies is $81,990. $56,997 is attributed to paid medical claims, $14,935 to cost-sharing, and $10,058 to retention. Of the overall spending, an estimated 18.2 percent is paid by the insured as cost-sharing.

A shift in cost from the public to private sector for health care coverage is not anticipated as result of mandating insurance coverage of fertility preservation. This is not a service that would otherwise be paid for through the public sector. However, under the Affordable Care Act, the state may be responsible for covering any added cost as a result of the proposed mandate for plans purchased through the state Health Insurance Exchange.

[426] Medical Expenditure Panel Survey. Private-Sector Data Premium, Contribution and Cost Distributions. 2012.

Appendix I

Committee Letter of 07/19/2013

Senator Joseph J. Crisco, Jr.
CO-CHAIRMAN

Senator Joan V. Hartley, Vice Chair
Senator Kevin C. Kelly, Ranking Member

State of Connecticut
GENERAL ASSEMBLY

Representative Robert W. Megna
CO-CHAIRMAN

Representative Christopher A. Wright, Vice Chair
Representative Robert C. Sampson, Ranking Member

INSURANCE AND REAL ESTATE COMMITTEE

July 19, 2013

Thomas B. Leonardi, Commissioner
State of Connecticut Insurance Department
P O Box 816
Hartford, CT 06142-0816

REVISED LETTER

Dear Commissioner Leonardi,

Pursuant to Section 1(c) of Public Act 09-179, we respectfully request that the Insurance Department through its statutory designees, review several particular proposed health benefits.

Specifically, we request a cost-benefit analysis of the following:

- **PANDAS (SB956)** To require health insurance coverage for the diagnosis and pediatric autoimmune neuropsychiatric disorder associated with streptococcal infections to require the Dept of Public health to develop programs and promote research on pediatric autoimmune neuropsychiatric disorder associated with streptococcal infections.
- **Lung Cancer Screening (SB 862)** To require health insurance coverage for lung cancer screening tests, in accordance with the recommendations established by the American Lung association after consultation with the American Cancer Society.
- **Fertility Preservation (HB 5644)** To require health insurance coverage of fertility preservation for insureds facing likely infertility as a result of a necessary medical procedure for insured with cancer and other medical conditions.

REVISED:

- **Mental Disorder and Drug Addiction(SB 1091)** To establish a task force to study health insurance coverage of and program enrollment options for treatment that is ordered by a court for mental disorders.

Thank you for your attention to our request. We look forward to hearing from you and /or your designees.

Best regards,

Senator Joseph Crisco, Jr.
Co-Chair Insurance & Real Estate Committee

Representative Robert W. Megna
Co-Chair, Insurance & Real Estate Committee

[illegible] Capitol Avenue, Hartford, CT [illegible] • Phone [illegible] • FAX [illegible]